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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,786	12/05/2001	Frank J. Adams	LEL-001	9851

27652 7590 08/20/2003

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EXAMINER

NGUYEN, TUAN N

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 08/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/006,786

Applicant(s)

ADAMS, FRANK J.

Examiner

Tuan N Nguyen

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 14, 16, and 21 are rejected under 35 U.S.C 112, second paragraph, as being indefinite, vague, and confusing for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, **for example**.

With respect to claims 1, 14, the claims recite a method for calibrating frequency difference between two or more laser, comprising: tuning the lasers with respect one or more narrow frequency ranges. It is vague and indefinite as to the means, how does the laser(s) tune, and what is the frequency range. The claims are indefinite in claiming the entire method in a single step. There is insufficient *means plus function* structural relationship between the elements, to perform a frequency calibration, which render the claims vague and indefinite. Furthermore, claims 2, or 8 have no means in performing the calibrating, coordinating, and being indefinite as to what means or where laser parameter being store. Claims 2-13, and 15 are rejected base on the same reason.

With respect to claims 16, 21, the claims recites “an apparatus for calibrating frequency difference between lasers, comprising: a *first and second tuning controller* coupled to first and second laser; *an optical coupler coupled to first and second controller*; a frequency detector

Art Unit: 2828

coupled to optical coupler; *a controller* coupled to the frequency detector and the first and second controller, wherein *the controller includes a processor and a memory....the method including tuning the lasers...*". It is vague and indefinite as to what the optical coupler is and its function, and indefinite as to where it is coupling to (before or after the laser output?). It is not clear *which controller* has a processor and a memory. Furthermore, the claims are confused and indefinite when written method steps in an Apparatus/Device claims, especially all dependent claims written in method steps. In addition, it is not clear what claims 18, 22 are claiming when recite "NIST traceable" (Claim must recite exactly what it is claiming – because it is not allowable to read limitation appearing in the specification into the claim; *See In re Paulsen*, 30 F.3d 1475, 1480, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994); *Intervet America Inc. v. Kee-Vet Lab. Inc.*, 887 F.2d 1050, 1053, 12 USPQ2d 1474, 1476 (Fed. Cir. 1989). It is vague and indefinite as to what is the pre-scaler or its function (both in the claim and in the specification p.4). Claims 17-20, and 22-24 are rejected base on the same reason.

Claim Rejections - 35 USC § 102

3. The following is a quotation of 35 U.S.C. 102(b) which forms the basis for all obviousness rejections set forth in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 8, 10, 13-16, 21, 23 are rejected under 35 U.S.C. 102(b) as being unpatentable over Siddiqui et al. (US 6163555).

With respect to claims 1, 14, 16, and 21 Siddiqui et al. '555 shows in figures 1, 2, 3 and discloses in the ABSTRACT an optical frequency generator that align at least two or more lasers and set specifically the frequency with an optical frequency meter or calibration. He shows an

Art Unit: 2828

optical signal generator apparatus for calibration comprising: first and second laser, first and second tuning controllers, an optical coupler, a frequency detector, and a controller coupled to frequency detector that has a processor and a memory (Figure 2: 10, 27, 11, 22, 13, 10-29) (Fig 3: 15-33) (Fig 1: 10-18) (Col 3-4). Since claims 1, 14, 16, 21 recite the same or identical elements/limitations it is inherent to use patents Siddiqui et al. '555 to recite the method of calibrating a frequency difference, product by process.

With respect to claims 2, 3, 15, 16, 23, Siddiqui et al. '555 discloses the calibration of frequency over 1st, 2nd or more tuning parameter ranges, and the 1st and 2nd narrow range frequency has one common calibration point (Col 2: 20-35, 40-55, 60-62; Col 3).

With respect to claims 4, 8, 10, 13 Siddiqui et al. '555 discloses the laser tuned by the changing temperature of one or more laser (Col 5: 50-56). (Figure 3: 33) shows the storing parameter and processor.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Art Unit: 2828

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or non-obviousness.
6. Claims 5, 6, 7, 9, 12, 18, 19, 20, 22, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siddiqui et al. (US 6163555).

With respect to claims 5, 6, 7, 9, 12, 20, Siddiqui et al. 555, disclosed all the above in the ABSTRACT, Columns 3-4 and figure 1, of at least two frequency tunable calibration laser emitting at different frequency. However, he did not explicitly disclose the frequency difference between the 2nd and 3rd lasers is substantially the same as the finite range of the frequency detector, and the frequency difference between the 1st and 3rd lasers is beyond the finite range of the detector. It is within the general skill of a worker in the art at the time the invention was made to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416; in this case the selection of frequency of one is laser is different from the other lasers, so that their frequency difference is within the range or greater than the range of the detector. In discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With respect to claims 18, 19, 22, 23 (figure 2: 22, 26-29) shows the pre-scaler and phase lock loop, and it is inherently obvious that the crystal oscillator generates frequency in an acceptable range as define by the industries, which is traceable back to National Institute of Standard Technology defined calibration. In discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Art Unit: 2828

Citation of Pertinent References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. It is cited primarily to show the product of the instant invention.

Hackle et al. (US005189485A), Cliche et al. (US 5780843), Shio et al. (US006553042B2), Munks et al. (US006134253A), Maier Jr. (US 4284964), Faris (US005347525A), Beauducel (US006239877B1), Coussot et al. (US 4331022), Snyder (US006542841B1), disclose wavelength calibration having feedback.

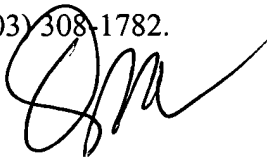
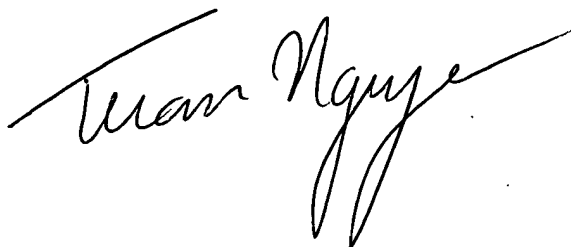
Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (703) 605-0756. The examiner can normally be reached on M-F: 7:30 - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8592 for regular communications and (703) 746-8592 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

Tuan N. Nguyen



QUYEN LEUNG
PRIMARY EXAMINER

for
